

MIDIVANI, A.G.; SADYKHOV, Yu.V.

Stuck pipes and their causes. Azerb. neft. Khoz. 41 no.1:
17-18 Ja '62. (MIRA 16:7)

(Oil well drilling)

SADYKHOV, Yu.V.

Relationship between the optimum axial weight and the
parametric characteristics of a turbodrill. Azerb.neft.khoz.
41 no.8:18-19 Ag '62. (MIRA 16:1)
(Oil well drilling) (Turbodrills)

SADYKHOV, Yu.V.; SALAMOV, M.Yu.; FRADKIN, A.B.

Analysis of the work of bits worn-out in electric drilling.

Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.1:71-78 '64.

(MIRA 18:6)

SALAMOV, M.Yu.; SADYKHOV, Yu.V.; MUSAYEVA, E., red.

[Problems of conditions in electric drilling] Voprosy
rezhima elektrobureniia. Baku, Azerneshr, 1964. 151 p.
(MIRA 17:12)

KULIYEV, S.M.; ~~SADYKHOV, YU. V.~~; MAKHMUDOV, T.M.

Power losses in the operation of a turbodrill with a drill collar
on the shaft. Burenie no.2:13-15 '65.

(MIRA 18:5)

1. Institut razrabotki neftyanykh i gazovykh mestorozhdeniy AN
AzSSR.

AKHUNDOV, U.E.R.; KULIYEV, S.M.; YES'MAN, B.I.; SAPIYKHOV, Yu.V.

Pressure losses in the joints of drilling tools used in slim
hole drilling. Neft.khoz. 43 no.8:51-55 Ag '65.

(MIRA 18:12)

34892

S/081/62/000/003/073/090
B171/B102

11.9700
AUTHORS:

Kuliyev, A. M., ~~Sadykhov, Z. A.~~, Levshina, A. M.

TITLE:

Low-temperature copolymerization of isobutylene with styrene
in the presence of aluminum chloride

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 3, 1962, 493, abstract
3M226 (Azerb. khim. zh. no. 3, 1961, 17-24)

TEXT: The low-temperature copolymerization of isobutylene (I) with
styrene (II) in isooctane and in the presence of $AlCl_3$ has been investigated
in order to obtain viscosity improvers that would be stable under the
working conditions to which the oils with additives are subjected in
engines. The reaction was carried out in a glass reactor, using a mixer,
at a temperature of $-105^{\circ}C$. The ratios of (I) and (II) were varied from
95:5 to 85:15 for reaction durations from 2 min to 3 hours. 0.1 to 1.5%
of the catalyst were used. Under the above conditions, copolymers with
molecular weights of about 6200 to 13,000 were obtained. It has been shown
that an addition of 3% of various samples of synthetic polymers increases
the viscosity index of the MK-8 (MK-8) oil from 56 to 130-145, and its
Card 1/2

KULIYEV, A.M.; SADYKHOV, Z.A.; LEVSHINA, A.M.

Polymerization of isobutylene and copolymerization of isobutylene
and styrene in the presence of a metallo-organic catalyst. Azerb.
neft.khoz. 41 no.3:33-36 Mr '62. (MIRA 15:8)
(Propene) (Polymerization)

L 60893-65 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM

ACC 3SION NR: AR5018416

UR/0081/65/000/011/S001/S001

SOURCE: Ref. zh. Khimiya, Abs. 11S3

AUTHOR: Kuliyeu, A. M.; Sadykhov, Z. A.; Levshina, A. M.; Vedeneyeva, L. Ya.

TITLE: Study of the structure of viscous polymers with the help of infrared absorption spectra

CITED SOURCE: Uch. zap. Azerb. un-t. Ser. khim. n., no. 2, 1964, 27-33

TOPIC TAGS: polymer, absorption spectrum, IR spectrum

TRANSLATION: The structures of a polymer of isobutylene and a copolymer of isobutylene with styrene used as viscous admixtures to oils are investigated. It is shown that the infrared spectra of polymers obtained in the presence of boron fluoride or aluminum chloride differ from the spectra of polymers obtained in the presence of the Ziegler-Natt catalyst. The most characteristic are the differences in the area of 3100-2800 cm^{-1} where there are fluctuations of the methylene (2930-2860 cm^{-1}) and methyl (2970-2870 cm^{-1}) groups. The authors consider that the differences in the spectra point to the fact that upon polymerization in the presence of metallorganic

Card 1/2

L 60893-65

ACCESSION NR: AR5018416

catalysts molecules of polymers are formed with less branching. A. Korobko

SUB CODE: *OP*, OC

ENCL: 00

plk
Card 2/2

37120
S/065/62/000/005/001/002
E075/E436

11.0140

AUTHORS: Kuliyeu, R.Sh., Sadykhova, B.A.
TITLE: Hydrofining of diesel oil raffinate
PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.5, 1962,
32-34

TEXT: Results are presented of hydrofining of diesel oil raffinate in place of acid refining. This work stems from a comprehensive programme of fundamental investigations carried out in the Institut neftekhimicheskikh protsessov AN AzSSR in the past few years to improve quality of the oils produced in Baku refineries. The experiments were conducted in a pilot plant, using 200 cm³ of Al-Co-Mo or WS₂ as catalyst, with a constant consumption of hydrogen of 30 l/hour. The raffinate (distillate extracted with 250% furfural) was fed at the rate of 0.5 m³/m³ at temperatures between 300 and 400°C and 50 to 200 atm pressure. Hydrofinishing with Al-Co-Mo as catalyst at 350°C and 50 atm pressure gives diesel oils with somewhat better physico-chemical properties than the corresponding oils obtained by treating the raffinate with 1% sulphuric acid and 5% clay.
Card 1/2

Hydrofining of diesel oil ...

S/065/62/000/005/001/002
E075/E436

Hydrofinishing conducted at 100 to 150 atm pressures gives oils with markedly better quality than that of the acid treated oils. It was found that WS_2 has better hydrogenating capacity than Al-Co-Mo. It gives however excessive cracking at temperatures above $300^{\circ}C$. Al-Mo-Co gives similar cracking at $400^{\circ}C$. For both catalysts the yield of the hydrofinished product is from 95 to 98% of the raffinate. There are 2 tables.

ASSOCIATION: Institut neftekhimicheskikh protsessov AN AzSSR
(Institute of Petrochemical Processes AS AzSSR)

Card 2/2

S/081/62/000/024/005/052
B108/B186

AUTHORS: Mardanov, M. A., Kuliyeu, R. Sh., Markhaseva, S. M.,
Sadykhova, B. A., Alekperova, N. G.

TITLE: Study of the oil and fuel fractions obtained by hydrogenation
of diesel-oil distillates and raffinates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 718, abstract
24M162 (Azerb. khim. zh., no. 2, 1962, 25 - 30 [summary in
Azerb.])

TEXT: For the purpose of producing high-quality motor oils, diesel fuels,
kerosene and gasoline fractions, the distillate of A-11 (D-11) diesel oil
was subjected to deep hydrogenation over a WS_2 catalyst, and the raffinate
of the same oil over a WS_2 and an Al-Co-Mo catalyst. It is shown that light
motor oils with a viscosity index of the order of 85 - 90 can be produced
from the hydrogenates obtained. The best of these is the oil produced by
hydrogenation over WS_2 . The gasoline fractions extracted from the
hydrogenates contain a considerable quantity of paraffinic hydrocarbons (up
Card 1/2

Study of the oil and fuel...

S/081/62/000/024/005/052
B108/B186

to 50%) and are marked by their low octane rating (35 - 37); this does not depend on the raw material and the catalysts used. Kerosene fractions of good quality were produced by hydrogenizing diesel fuel raffinates over WS_2 . The diesel fuels thus obtained meet all requirements demanded of winter fuels. As regards their cetane rating, they are far superior to the winter diesel fuels refined from Baku crude oil. [Abstracter's note: Complete translation.]

Card 2/2

KULIYEV, R.Sh.; ~~SADYKHOVA, B.A.~~; KADYMALIYEVA, N.I.

Using hydrogenation for obtaining MS-20 aviation oil from the asphalt of the Neftyanyye Kamni field. Azerb. neft. khoz. 41
no.12:35-36 D '62. (MIRA 16:7)

(Neftyanyye Kamni region--Asphalt)
(Hydrogenation) (Airplanes--Lubrication)

RASULOV, A.M.; CHERNOZHUKOV, N.I.; KULIYEV, R.Sh.; SADYKHOVA, B.A.

Effect of the depth of the detarring of crude residue on
the hydrogenation and quality of the lubricant fractions
obtained. Khim. i tekhn. topl. i masel 9 no.9:29-33 S '64.
(MIRA 17:19)

L 53610-65 EWT(m)/EPF(c)/T Pr-4 DJ

UR/0065/64/000/012/0011/0015

ACCESSION NR: AP5016258

AUTHOR: Rasulov, A. M.; Chernozhukov, N. I.; Kuliyeu, R. Sh.; Sadykhova, B. A.

TITLE: Production of oils by the method of destructive hydrogenation

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 12, 1964, 11-15

TOPIC TAGS: catalysis, temperature, hydrogenation, petroleum refining, petroleum refinery product

Abstract: The influence of temperature and catalyst on the yield and quality of destructive hydrogenation products of the deasphaltate of petroleum of the Neftyanyye Kamni Deposit was investigated. Raising the temperature of the hydrogenation process on the catalysts WS_2 and Al-Co-Mo leads to an improvement of the qualities of the hydrogenate obtained. Optimum temperature for the hydrogenation of deasphaltate of Neftyanyye Kamni crude with a coking quality of 2% in the production of high-quality oils is $435^\circ C$ with WS_2 catalyst and $465^\circ C$ with Al-Co-Mo catalyst. The WS_2 catalyst was found to be more effective than the catalyst Al-Co-Mo. The catalyst WS_2 makes it possible to carry out the hydrogenation at

Card 1/2

L 53610-65

ACCESSION NR: AP5016258

relatively low temperature and to obtain oils with better quality and in higher yield (more than 18% of the crude). The aviation oil produced by hydrogenation on the WS_2 catalyst contains more of the methane-naphthenic hydrocarbons and less of the light and medium aromatic hydrocarbons than oil produced on the Al-Co-Mo catalyst. Oil produced on WS_2 contains no heavy aromatic hydrocarbons, but does contain 1% of the intermediate fractions of aromatic hydrocarbons. The investigated oils contain approximately the same amount of resinous matter. Orig. art. has 2 graphs and 5 tables.

ASSOCIATION: INKhP AN Azerb. SSR

SUBMITTED: 00

ENCL: 00

SUB CODE: FP; 00

NO REF SOV: 000

OTHER: 000

JPRS

Card ^{du} 2/2

S/152/62/000/006/001/001
B126/B110

AUTHORS: Mekhtiyev, S. D., Brzhezitskaya, L. M., Sadykhova, F. N.
TITLE: Investigation of the reaction of ethylene condensation with
monochlorides of butane and pentane
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 6,
1962, 61 - 66

TEXT: The object of these experiments was to obtain primary monochlor-
substituted alkanes. The initial material used was tertiary amyl chloride,
tertiary butyl chloride, isobutyl chloride and ethylene. Optimum conditions
for the condensation of tertiary amyl chloride with ethylene were
established as follows: temperature -50°C , at which a yield of 81% is ob-
tained; amount of catalyst 9% of initial chloride; reaction period 1.5 hr.
The influence of the molar correlation under these conditions was found to
be such that the maximum yield occurs using an ample quantity of ethylene.
The product of these condensation tests was a heptylchloride with a
boiling range of $146.75 - 196.90^{\circ}\text{C}$. Optimum condensation occurred at 30°C ,
using 5% of catalyst in the case of tertiary butyl chloride with ethylene
Card 1/2

Investigation of the reaction...

S/152/62/000/006/001/001
B126/B110

(which gave a maximum yield of 79%) and using 10% of catalyst in the case of isobutyl chloride with ethylene. The condensation product was a hexyl-chloride with a boiling point of 116 - 117°C. There are 7 figures and 2 tables. The most important English-language reference is: Bawn CEH J. Inst. Petrol, v. XI, v. 46, No. 443, 1960. ✓

ASSOCIATION: Azerbaydzhanskiy institut nefi i khimii im. M. Azizbekova
(Azerbaydzhani Institute of Petroleum and Chemistry imeni
M. Azizbekov)

SUBMITTED: January 19, 1962

Card 2/2

SADYKHOVA, I.A.

Some indexes of pigment metabolism in bacillary dysentery in children. Azerb. med. zhur. no. 1:21-25 Ja '61. (MIRA 14:2)

1. Iz kafedry gosital'noy pediatrii (zav. - zasluzhennyy deyatel' nauki, dotsent A.N. Amirdzhanov) Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta imeni N. Narimanova (direktor - zasluzhennyy deyatel' nauki, prof. B.A. Eyvazov).
(DYSENTERY). (BILIRUBIN)

SHAKHTAKHTINSKIY, T.N.; SADYKHOVA, Kh.I.; GADZHIYEVA, Kh.M.

Production of maleic anhydride by catalytic oxidation of butylenes by air in the fluidized bed of the catalyst in a large pilot plant. Aze b. khim. zhur. no.3:80-83 '65.

1. Institut neftekhimicheskikh protsessov AN AzerSSR.

NAGIYEV, M.F.; KANDALOVA, V.D.; SADYKHOVA, Kh.I.

New method of calculating unit operations in the manufacture
of sulfuric acid by the contact process. Azerb.khim.zhur.
no.1:71-76 '61. (MIRA 14:8)

(Sulfuric acid)

SHAKHTAKHTINSKIY, T.N.; SADYKHOVA, Kh.I.; FARBERG, Z.M.

Preparation of maleic anhydride by the catalytic oxidation of butylenes in a fluidized bed of a catalyst. Azerb. khim. zhur. no. 2:91-94 '65. (MIRA 18:12)

1. Institut neftekhimicheskikh protsessov AN AzerSSR. Submitted Sept. 10, 1964.

SADYKHOVA, M.G.

Study on the effectiveness of sulfide water in the treatment
of rheumatic fever in children. Sbor. trud. Azerb. nauch.-
issl. inst. kur. i fiz. metod. lech. no.9:164-166 '63.
(MIRA 18:8)

S/081/62/000/007/019/033
B168/B101

AUTHORS: Nagiyev, M. F., Vechkhayzer, I. V., Sadykhova, S. A.

TITLE: Experimental research into the process of stabilization by hydrogenation of the middle fractions from light thermal cracking of mazut

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1962, 538-539, abstract 7M109 (Azerb. khim. zh., no. 4, 1961, 61-73)

TEXT: The kinetics of the process of stabilization by hydrogenation of the 135-300°C fractions from light thermal cracking of mazut with an Al-Co-Mo catalyst in the temperature range of 320-400°C and at a pressure of 20-100 atm with various mazut/hydrogen ratios was studied in the laboratory. The influence of the thickness of the catalyst layer on the degree of conversion of the unsaturated hydrocarbons was shown. The optimum conditions for the process (those causing no appreciable destructive changes and which result in stabilized products almost entirely free from unsaturated and sulfur compounds) were as follows: pressure 100 atm, temperature 400°C, molar mazut/hydrogen ratio = 1:1.5; volume flow rate

Card 1/2

Experimental research into the ...

S/081/62/000/007/019/033
B168/B101

1.0-1.5 l/1-hr. A diagram of the apparatus is given. [Abstracter's note:
Complete translation.]

Card 2/2

38634

5/081/62/000/009/053/075

B166/B144

11.0140

AUTHORS: Nariyev, M. P., Vechkhayzer, I. V., Sadykhova, S. A.

TITLE: Production of diesel fuels from the medium fractions in light thermal cracking of the residue

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 516, abstract 30171 (Dokl. AN AzerbSSR, v. 17, no. 3, 1961, 681 - 686)

TEXT: It is shown that hydrostabilization of the medium fractions in light thermal cracking of the residue (the 135 - 300°C and 200 - 350°C fractions separated from gasoline + kerosine and kerosine + reflux mixtures, respectively, served as raw material) over an Al - Co - Mo catalyst under previously established optimum working conditions make it possible to obtain arctic-grade and winter-grade diesel fuels which fulfill the GOST requirements and greatly surpass them with respect to cetane numbers. The same can be done over WS_2 , subject to various working conditions and followed by dewaxing with carbamide. The yield of diesel fuels from these specific fractions is considerably higher with Al - Co - Mo than with WS_2

Card 1/2

Production of diesel fuels ...

S/081/62/000/009/053/075
B166/B144

catalysts; the quality of the fuels obtained is approximately the same in both cases. [Abstracter's note: Complete translation.]

✓

Card 2/2

PETROVA, Z.G.; BABAYEVA, A.A.; SADYKHOVA, S.A.; ZEYNALOVA, K.G.

Some data on sulfocation exchangers obtained on the basis
of polyalkyl benzenes produced by synthetic rubber plants.
Azerb. khim. zhur. no.2:45-50 '63. (MIRA 16:8)

L 18951-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-l/Pr-l/Ps-l RPL/ASD(m)-3 RM/
WW

ACCESSION NR: AP4049422

S/0316/64/000/001/0037/0042

AUTHOR: Petrova, Z. G.; Babayeva, A. A.; Sadykhova, S. A.; Zeynalova, K. G.;
Mirzoyeva, O. I.; Zamanova, E. Yu.

TITLE: A study of relationships governing the copolymerization of divinylbenzenes
with styrene using the sodium salt of polyalkylbenzenesulfonic acid as an emulsi-
fying agent

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 1, 1964, 37-42

TOPIC TAGS: copolymerization, emulsifier, polyalkylbenzenesulfonate, divinyl-
benzene copolymer, styrene copolymer, ion exchange resin, cumene hydroperoxide

ABSTRACT: This work is a continuation of earlier investigations on the adoption
of polyalkylbenzenes used for alkylation in the production of high-molecular-
weight compounds. The article presents the results of a study of the relation-
ships governing the copolymerization of styrene with the technical-grade fraction
of divinylbenzenes, the best ion-exchange resins being obtained from such copoly-
mers. The copolymerization was carried out in the presence of cumene hydroperoxide
as the initiator, and the sodium salt of polyalkylbenzenesulfonic acid as the
emulsifier, developed at the INKhP under the supervision of M. A. Ashimov. The
investigated factors affecting the copolymerization process were the temperature,
Card 1/2

L 18951-65

ACCESSION NR: AP4049422

the initiator and emulsifier concentration, and the duration of the experiment. The optimum values found were a temperature of 90C, a concentration of cumene hydroperoxide of 2%, a concentration of emulsifier of 0.5%, and a reaction time of 8 hrs. The highest yield of polymers was obtained at low concentrations of divinylbenzenes in the starting mixture. Orig. art. has: 3 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: 0C

NO REF SOV: 004

OTHER: 000

Card 2/2

L 18950-65 EWT(m)/EPF(c)/EWP(j) Pc-L/Pr-L ASD(m)-3 RM

ACCESSION NR: AP4049431

S/0316/64/000/003/0083/0089

AUTHOR: Petrova, Z.G., Babayeva, A.A., Sady*khova, S.A., Zeynalova, K.G. *B*

TITLE: Preparation of sulfpolymers from divinylbenzene and styrene and a study of their physicochemical properties

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 3, 1964, 83-89

TOPIC TAGS: isopropylbenzene peroxide, divinylbenzene, styrene, copolymerization, sulfpolymer, sulfonation, polymer physical property, ion exchange resin

ABSTRACT: Copolymers produced from a mixture of styrene and 2.5% commercial divinylbenzene by heating for 6 hours at 90-98C using 1-3% isopropylbenzene peroxide as an initiator and 0.5% azolate as an emulsifier were sulfonated for 4 hours at 120C by 98-100% sulfuric acid used in a 4:1 ratio to the polymers. Granulometric composition, bulk and true density, total exchange capacity, swelling characteristics, and calcium-ion capacity of the polymers are given in tables for different sulfonation conditions. The effect of increasing the divinylbenzene content in the original compounds from 5 to 30% on the properties of ion exchange resins produced by sulfonation is also tabulated.

Excessive swelling limits the divinyl content of the copolymers to 10%. Orig. art. has:

Card 1/2

L 18950-65

ACCESSION NR: AP4049431

4 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: OC

NO REF SOV: 006

OTHER: 000

Card 2/2

SATTAR-ZADE, A.Dzh.; SADYKHOVA, S.S.; SATTAR-ZADE, I.S.

Optical analysis of petroleum from Artem Island. Part 2. Uch.
zap. AGU. Ser. fiz.-mat. i khim. nauk no.5:51-57 '61. (MIRA 16:6)
(Artem Island--Petroleum--Analysis)

L 11585-66 EWT(m)/EWP(j) RM

ACC NR: AP5028892

SOURCE CODE: UR/0316/65/000/004/0058/0064

AUTHOR: Shvarts, A. G.; Sadykhova, U. K.; Eytingon, I. I.

ORG: AzINEFTEKhim im. M. Azizbekova

TITLE: Study of vulcanization activity in alkylphenolformaldehyde resins containing methoxy- and bromomethyl terminal groups

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 4, 1965, 58-64

TOPIC TAGS: vulcanization, resin, polyformaldehyde plastic, synthetic material

ABSTRACT: The effect of introducing terminal methoxy- and bromomethyl groups to the p-octylphenolformaldehyde resins (BOFFA and OFFA commercial resins) on the mechanical properties of these resins and the rate of vulcanization was studied. The rate of vulcanization was studied with and without $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ activator. A VR-2 plastometer measured resin viscosity at 110°, 120°, 130°, and 140°C. The degree of resin cross-linking was measured by swelling technique at 140°, 150°, 160°, 170° and 180°C. The vulcanization rate in the bromine-containing resin mixture was 1.8 times greater than that in the methoxy-groups containing resin mixture. The vulcanization accelerating action of the bromomethyl groups was particularly pronounced in the absence of vulcanization activator. Presence of bromomethyl groups also caused an increase in cross-linking. Introduction of the bromomethyl groups was reflected in a general improve-

Card 1/2

L 11585-66

ACC NR: AP5028892

ment in the physicommechanical properties of the commercial p-octylphenolformaldehyde resins. Orig. art. has: 5 figures, 5 tables.

SUB CODE: 11/

SUBM DATE: 14Apr64/

ORIG REF: 006/

OTH REF: 000

HW
Card 2/2

SADYKH-ZADE, A. A.

SADYKH-ZADE, A. A.: "The Architecture of Rural Residential Buildings in the Northeastern Mountainous Regions of Azerbaydzhan." Academy of Architecture USSR. Moscow, 1956. (Dissertation for the Degree of Candidate in Architectural Science)

So: Knizhnaya Letopis', No. 19, 1956.

SADYKH-ZADE, E. S.

Sadykh-Zade, E. S. -- Author's abstract of a dissertation submitted toward the academic degree of Candidate in Technical Sciences on "Rational Principles for the Removal of Gas from an Underground Pump Oil Well." Min Higher Education USSR. Azerbaydzhan Order of Labor Red Banner Industrial Institute imeni M. Azizbekov. Baku, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya Letopis', No 12, 1956

SADYKHZADE, E.S.

Calculating gas-collecting ring pipelines. Izv. vys. ucheb. zav.;
neft' i gaz no. 3:117-119 '58. (MIRA 11:7)

1. Azerbaydzhanskiy industrial'nyy institut im. M. Azizbekova.
(Gas pipes)

SADYKHZADE, E.S.

Measuring casing-head gas in deep pumping wells. Azerb. neft. khoz.
37 no.1:29-30 Ja '58. (MIRA 11:6)
(Gas, Natural)

KADYROV, N.K.; SADYKH-ZADE, E.S.

Method for taking samples from a two-phase vertical flow of gas
condensate mixtures. Azerb.neft.khoz. 41 no.3:24-25 Mr '62.
(MIRA 15:8)

(Condensate oil wells)

SADYKHZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Effect of rock gas sorption on permeability. Izv. vys. ucheb.
zav.; neft' i gaz 6 no.8:45-49 '63. (MIRA 17:6)

1. Azerbaydzhanskiy institut nefti i khimii imeni M. Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti.

SADYKH-ZADE, E.S.; MAMEDOV, Yu.G.; RAFIBEYLI, N.M.

Determination of the dynamic pressure of initial condensation in the presence of a porous medium. Izv.vys.ucheb. zav.; neft' i gaz 6 no. 12:33-34 '63. (MIRA 17:5)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po
dobyche nefti.

DURMISH'YAN, A.G. (Baku); MAMEDOV, Yu.G. (Baku); MIRZADZHANZADE, A.Kh.
(Baku); RAFIBEYLI, N.M. (Baku); SADYKH-ZADE, E.S. (Baku)

Experimental investigations of hydrodynamic and thermodynamic
properties of gas-condensate mixtures flowing in a porous medium.
Izv.AN SSSR. Mekh.i mashinostr. no.1:133-136 Ja-F '64.

(MIRA 17:4)

DURMISH'YAN, A.G.; MAMEDOV, Yu.G.; MIRZADZHANZADE, A.Kh.; RAFIBEYLI, N.M.;
SADYKH-ZADE, E.S.

Experimental investigations of the hydrodynamic and thermodynamic properties of gas-condensate mixtures during seepage in a porous medium. Dokl. AN Azerb. SSR 20 no.8:31-35 '64.
(MIRA 17:12)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy neftyanoy institut.

ISMAYLOV, D.Kh.; SADYKH-ZADE, E.S.; TRIVUS, N.A.

Effect of the thermodynamic disequilibrium of the differential condensation of a gas-condensate system on the quantity of condensate evolved. Izv. vys. ucheb. zav.; neft' i gaz 8 no.1:73-77 '65. (MIRA 18:2)

1. Azerbaydzhanskiy institut nefti i khimii imeni A. Azizbekova i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche nefti.

TRIVUS, N.A.; SADYKH-ZADE, E.S.; ISMAILOV, D.Kh.

Experimental investigation of the contact and differential condensation of a gas-condensate mixture. Izv. vys. ucheb. zav.; neft' i gaz 8 no.2:47-50 '65.

(MIRA 18:3)

1. Azerbaydzhanskiy institut nefti i khimii im. M. Azizbekova
i Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti.

SADYKH-ZADE, K.S.

Change in the total blood cholesterol in hepatocholecystitis
under the influence of subaqueous intestinal lavage with
Bash-Istisu mineral water. Sbor.trud.Azerb.nauch.-issl.inst.
kur.i fiz.metod.lech.no.3:117-121 '59. (MIRA 16:4)
(AZERBAIJAN--MINERAL WATERS) (LIVER--DISEASES)
(CHOLESTEROL) (ENEMA)

TRIVUS, N.A.; SADYKH-ZADE, E.S.

Change in gas and condensate properties in the process of the
development of Karadag and Zyrya gas condensate fields. Gaz.
delo no.9:5-11 '63. (MIRA 17:12)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
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SADYKH-ZADE, F.S.; ISMAILOV, D.Kh.; KARAKASHEV, V.K.

Effect of methods for condensation on the drop in reservoir pressure.
Izv. vys. ucheb. zav.; neft' i gaz, 8 no.5:43-46 '65. (MIRA 18:7)

1. Azerbaydzanskiy institut nefti i khimii im. M.Azizbekova i Azerbaydzhan-
skiy nauchno-issledovatel'skiy institut po dobyche nefti.

SADYKHADZE, S. I.

~~-ZADE~~
PETROV, A. D. (Acad.); SADYKHADZE, S. I.

Lithium

Organic lithium synthesis of some α -naphthyl-silanes. Dokl. AN SSSR, 85, no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

SADYKHAZADE, S. I., PETROV, A. D.

Silicon Organic Compounds

Synthesis and properties of silicohydrocarbons of the enim series. Dokl. AN SSSR 85
No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, UNCL.

SADYKHZADE, S.I.

Sadykhzade, S.I. --"Synthesis and Reactions of Silicon Hydrocarbons of the Enin Series."
Cand Chem Sci, Inst of Organic Chemistry, Acad Sci USSR, Moscow 1953. (REFERATIVNYI
ZHURNAL--KHIMIYA, No 1, Jan 54.)

Source: SUM 168, 22 July 1954

5 ADYKH-24DE, S.I.

USSR/ Chemistry Organic chemistry

Card : 1/1 Pub. 40 - 22/27

Authors : Petrov, A. D., Cadykhzadze, S. I., and Yegorov, Yu. P.

Title : Synthesis, physical and chemical properties of vinyl ethynylsilanes

Periodical : Izv. AN SSSR. Otd. khim. nauk 4, 722 - 732, July - August 1954

Abstract : The synthesis and physico-chemical properties of vinyl ethynylsilanes, are described. The addition reactions, considered the most interesting among all other chemical reactions of vinyl ethynylsilanes, are analyzed. Vinyl ethynylsilanes and particularly divinyl ethynylsilanes, when exposed to air, spontaneously polymerize into transparent peroxide - containing resins. The relation between the rate of polymerization and the structure of the silanes, is explained. Tables showing the physico-chemical properties of mono-, di- and trisilanes, are included. Eleven references: 6 USSR and 5 USA (1933 - 1953). Graphs; tables.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Submitted : May 6, 1953

SADYKH-ZADE, S. I.

USSR/Chemistry - Synthesis

Card : 1/1

Authors : Sadykh-Zade, S. I., and Petrov, A. D., Memb. Corres. of Acad. of Sc., USSR

Title : Direct synthesis of 3-chlorobutene-2-silane chlorides

Periodical : Dokl. AN SSSR, 96, Ed. 4, 765 - 768, June 1954

Abstract : The process of direct synthesis of 3-chlorobutene-2-silane chlorides is described. The reaction begins easily and continues at medium temperatures. At 250°, the reaction shows a tendency toward homologous monosilanes. Monosilane chlorides constitute about one half of the silane chlorides, subjected to distillation. At low synthesis temperatures the chloride, which has a short bond with the carbon, reacts in a relatively lesser degree and the yield of butene-2, 3-chloro-silane chlorides is close to the yield of allylsilane chlorides. Five references. Table.

Institution : Acad. of Sc. USSR, The N.D. Zelinskiy Inst. of Organic Chem.

Submitted : March 13, 1954

SADYKHZADE, S. I.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 40 - 24/27

Authors : Petrov, A. D.; Sadykhzade, S. I.; and Vdovin, V. M.

Title : Reaction of MgBr-vinylethynyl with triphenylhalide silanes

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 181-182, Jan-Feb 1955

Abstract : Brief report is presented on the established differences in the synthesis and reactivity of $(C_6H_5)_3SiCl$ and $(C_6H_5)_3CCl$. The existing reactivity differences are explained by the different electron density of bonds with the Cl of the silicones and carbonium radicals as well as by the spatial hindrances in the formation of the ion silicone. Six references: 3 USA and 3 USSR (1933-1954).

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Submitted : July 22, 1954

SADYKH - ZADE, S.I.

USER/ Chemistry - Synthesis methods

Card 1/1 Pub. 22 -27/60

Authors : Petrov, A. D. Memb. Corresp., Acad. of Sc., USSR, Sadykh-Zade, S. I.;
and Vdovin, V. M.

Title : Synthesis and reactions of beta-trichlorosilylpropionitrile

Periodical : Dok. AN SSSR 100/4, 711-714, Feb 1, 1955

Abstract : A direct method is described for the synthesis of beta-trichlorosilylpropionitrile ($\text{Cl}_3\text{SiCH}_2 \cdot \text{CH}_2 \cdot \text{CN}$) from beta-chloropropionitrile passing through a Si-Cu alloy at 370° . The synthesis of this compound - an analogue of ethyltrichlorosilane with the nitrile group in beta-position relative to Si - has uncovered simple ways of obtaining its different poly - and monomeric derivatives. The reaction of beta-trichlorosilylpropionitrile with other silicon halide compounds is discussed. Six references: 3 USA, 2 USSR and 1 English (1945-1954).

Institution :

Submitted : July 10, 1954

S.A.D.Y.K. H.Z. H.Z. S. L.
 Direct synthesis of polysilyl chlorides from α - and β -chloroalkylsilyl chlorides. S. I. Sadyk-Hizade, E. A. Chernyshev, and V. P. Mironov. *Doklady Akad. Nauk S.S.S.R.* 105: 490-3 (1955). Passage of chloroalkylsilyl chlorides over Si-Cu at 370-400° resulted in substitution of a 2nd chlorosilyl group into the alkyl chain, the yield of products decreasing in the series $\text{CH}_3\text{SiCH}_2\text{CH}_2\text{Cl}$, MeCHClSiCl_2 , $\text{Me}_2\text{CH}_2\text{CH}_2\text{Cl}$, $\text{ClCH}_2\text{SiCl}_2$, from 55% to 30%; polysubstitution products were formed in smaller amounts. The above starting materials yielded the following products: $\text{ClCH}_2\text{SiCl}_2$ gave 2% SiCl_4 , 10% MeSiCl_2 , 30% starting material; 30% $\text{CH}_3(\text{SiCl}_2)_2$, b. 180.5-1°, and 8.5% SiCl_4 , $\text{CH}_3(\text{SiCl}_2)_2$, b. 157-8°, d. 1.5423, n_D²⁰ 1.4970; $\text{MeSiCl}_2\text{CH}_2\text{Cl}$ gave 2% SiCl_4 , 21% Me_2SiCl_2 , 17% starting material, 28.7% $\text{Me}_2\text{SiCH}_2\text{CH}_2\text{SiCl}_2$, b. 183.5-4.5°, d. 1.4107, n_D²⁰ 1.4692, and 10.7% $(\text{MeSiCl}_2\text{CH}_2)_2\text{SiCl}_2$, b. 123-4°, 1.3792, 1.4905; MeCHClSiCl_2 gave 3.3% SiCl_4 , 28.3% EtSiCl_2 , 5% starting material, 5% $\text{ClSiCH}_2\text{SiHCl}_2$, b. 180.4-1°, 1.4373, 1.4780, 25% $\text{MeCH}(\text{SiCl}_2)_2$, b. 197-7.3°, 1.5121, 1.4842, 8.3% $(\text{CHMeSiCl}_2)_2$, b. 237-9°, d. 1.4332, 1.4910, and 6.6% SiCl_4 , $(\text{CHMeSiCl}_2)_2$, b. 272.5-5°, 1.4736, 1.4960; $\text{ClCH}_2\text{CH}_2\text{SiCl}_2$ gave trace of H_2SiCl_2 , 3% SiCl_4 , 8.3% EtSiCl_2 , 6% $\text{CH}_3\text{CH}_2\text{SiCl}_2$, 45.3% $(\text{CH}_2\text{SiCl}_2)_2$, b. 190-0.2°, 3.3% $\text{ClSiCH}_2\text{CH}_2\text{SiHCl}_2$, b. 183-4°, and 10% SiCl_4 , $(\text{CH}_2\text{CH}_2\text{SiCl}_2)_2$, b. 154.5-0°, m. 44-6°, G. M. K.

SADYKHZADE, S I

USSR/Organic Chemistry - Synthetic Organic Chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4461

Author : Petrov, A.D., Sadykhzade, S.I., Tsetlin, I.L.

Inst : Academy of Sciences USSR

Title : Direct Synthesis of Alkyl- and Alkenyl Chlorosilanes
on the Basis of 1,1-Dichloroethane and 2,2-Dichloropropane

Orig Pub : Dokl. AN SSSR, 1956, No 1, 99-102

Abstract : Study of interaction of 1,1-dichloroethane (I) and 2,2-dichloropropane (II) with an alloy of Si-Cu (80:20) (16-25 hours at 360-380° under conditions of a circulation-type equipment). From I were obtained: 4.5% SiCl₄, 15.2% I, 6.4% vinyl-dichlorosilane (BP 72-73°/750.5 mm, n_D²⁰ 1.4160, d₄²⁰ 1.1222), 16% vinyl-trichlorosilane (BP 92.5°/750.5 mm, n_D²⁰ 1.4295, d₄²⁰ 1.2426); 6.5% 1,1-bis-dichlorosilylethane (III) (BP 165.5°/750.5 mm, n_D²⁰ 1.4678, d₄²⁰ 1.3343); 18.5% 1-dichlorosilyl-1-trichlorosilylethane (IV) (BP 181°/750.5 mm, n_D²⁰ 1.4740, d₄²⁰

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USSR/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4461

1.4310) and 18.5% 1,1-bis-(trichlorosilyl)-ethane (V) (BP 197.5°/750.5 mm, n_D^{20} 1.4820, d_4^{20} 1.5059). From II were obtained: 2% SiCl_4 ; 15% II; 7.6% dichloroisopropenyl-silane (VI) (BP 90°/758 mm, n_D^{20} 1.4310, d_4^{20} 1.0787); 10.1% isopropenyltrichlorosilane (BP 113°/758 mm, n_D^{20} 1.4412, d_4^{20} 1.2398); 14% 2,2-bis-(dichlorosilyl)-propane (VII) (BP 175.8/8°/758 mm, n_D^{20} 1.4709, d_4^{20} 1.2635); 11.5% 2-dichlorosilyl-2-trichlorosilyl-propane (VIII) (BP 195.5°/758 mm, n_D^{20} 1.4818, d_4^{20} 1.3808); 8.5% 2,2-bis-(trichlorosilyl)-propane (BP 214°/758 mm, n_D^{20} 1.4927, d_4^{20} 1.3733) and a small amount of a substance having a melting point of 88-90°, and according to analytical data the composition $[\text{SiCl}_2\text{C}(\text{CH}_3)_2]_3$. By methylation there were obtained: From III -- $\text{CH}_3\text{CH}(\text{SiH}(\text{CH}_3)_2)_2$ (IX), BP 124°/746 mm, n_D^{20} 1.4252, d_4^{20} 0.7597; from IV -- $\text{CH}_3\text{CHSiH}(\text{CH}_3)_2$.

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$\cdot\text{Si}(\text{CH}_3)_3$

758 mm, n_D^{20} 1.4360, d_4^{20} 0.7779; from VIII --

$(\text{CH}_3)_2\text{C}(\text{SiH}(\text{CH}_3)_2\text{Si}(\text{CH}_3)_3)$ (XII), BP 159-160°/758 mm,

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obtained for the first time. From 1,2-dichloroethane, under the above-described conditions, vinylsilane chlorides are not formed.

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SADYKH-ZADE, S. I.

USSR/Organic Chemistry - Synthetic Organic Chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4464

Author : Petrov, A.D., Mironov, V.F., Vdovin, V.M., Sadykh-Zade, S.I.

Inst : Academy of Sciences USSR

Title : Cyanethylation of Silicochloroform

Orig Pub : Izv. AN SSSR, Otd. khim. n., 1956, No 2, 256-257

Abstract : It is shown that on heating for 4 hours at 160-170° and 20 atmospheres in the presence of Raney nickel, HSiCl_3 is added to $\text{CH}_2=\text{CHCN}$ (I), to give $\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{CN}$ (II)

(BP 79-82°/10 mm, MP 32-33°) with a yield of 12.2%.

$\text{HSi}(\text{CH}_3)\text{Cl}_2$, under the same conditions, is added to I,

but pure $\text{Cl}_2(\text{CH}_3)\text{SiCH}_2\text{CH}_2\text{CN}$ could not be isolated. On

interaction of II with CH_3MgI was obtained

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SADYKH-ZADE, S. I.

13512* (Russian.) Research in Compounds of High Molecular Weight. Iz oblasti vysokomolekulyarnykh soedinenii. XCVII. On the Polymerization and Copolymerization of Certain Silicoolefins. O polimerizatsii i kopolimerizatsii nekotorykh kremniiolefinov. XCVIII. Dependence of Mixed Polyamide Properties on the Number of Hydrogen Bonds. Zavisimost' svoystv smeslannykh poliamidov ot kolichestva vodorodnykh svyazey. V. V. Korshuk, A. D. Petrov, N. G. Matveeva, V. F. Mironov, G. I. Nikitin, S. I. Sadykh-Zade and T. M. Frunze. Zhurnal Obshchei Khimii, v. 26, no. 4, Apr. 1956, p. 1209-1212.

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SADYKHZADE, S. I.

USSR/Organic Chemistry. Synthetic Organic Chemistry.

E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19258.

Author : Sadykhzade S. I., Tzetlin I. I., Petrov A. D.

Inst :

Title : Synthesis of Silicon Containing Simple Ethers and Diethers.

Orig Pub: Zh. obshch. khimiyi, 1956, 26, No 5, 1239-1243.

Abstract: According to the diagrams of Grignard and Barbier--Yavorskiy were synthesized a series of ethers with a Si-atom in β -, γ -, and δ -positions to the ether linkage. It is determined, that in α -silicone ethers the bond Si-C is not broken by the action of conc. HCl on heating, or $AlCl_3$ at usual temperature. With $AlCl_3$ at 50-60° is formed $(CH_3)_3SiCl$ (I). The action of Br_2 on $(CH_3)_3Si(CH_2)_3OCH_3$ (II) led to the formation of $(CH_3)_3SiBr$. To 30 g. Mg and 0.5 g $AlCl_3$ in 350 cc abs. ether is gradually added

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Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19258

a mixture of 108.5 g. $\text{Cl}(\text{CH}_2)_3\text{OCH}_3$ (III) (b.p. $110.2^\circ/734$ mm, n_D^{20} 1.4133, d_4^{20} 0.9971) and 108.5. I and the mixture is stirred while heating for 5 hours. After the usual treatment II is obtained, yield 68% b.p. $142^\circ/746$ mm, n_D^{20} 1.4112, d_4^{20} 0.7907. Analogically were synthesized (given substance, yield in %, b.p. $^\circ\text{C}/\text{mm}$, n_D^{20} and d_4^{20}): $(\text{C}_2\text{H}_5)_3\text{Si}(\text{CH}_2)_3\text{OCH}_3$ (IV), 7.2 $207/746$, 1.4413, 0.8375; $(\text{CH}_3)_2\text{C}_2\text{H}_5\text{Si}(\text{CH}_2)_3\text{OCH}_3$ (V) 50, $164/752$, 1.4211, 0.8059; $(\text{CH}_3)_2\text{Si}[(\text{CH}_2)_3\text{OCH}_3]_2$ 36, $105-105.6/20$, 1.4330, 0.8676. By the interaction of $(\text{CH}_3)_3\text{SiCH}_2\text{MgCl}$ and $\text{CH}_3\text{OCH}_2\text{Cl}$ in usual conditions is obtained $(\text{CH}_3)_3\text{SiCH}_2\text{CH}_2\text{OCH}_3$, yield 40% b.p. $48-49^\circ/70$ mm, n_D^{20} 1.4030, d_4^{20} 0.7867. Analogically is synthesized $(\text{CH}_3)_3\text{Si}(\text{CH}_2)_4\text{OCH}_3$, yield 8%, b.p. $59^\circ/12$ mm, n_D^{20} 1.4243, d_4^{20} 0.8213. To 34 g. Mg and 0.5g AlCl_3 in 250 cc abs. ether is added in drops 108.5 g. III; obtained reaction mass is added to 85 g. SiCl_4 in 100 cc

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Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19258

ether, heated 5 hours, and filtered. At the distillation of the filtrate is obtained $\text{Cl}_3\text{Si}(\text{CH}_2)_3\text{OCH}_3$, yield 23.5%, b.p. $172.5^\circ/744$ mm, n_D^{20} 1.4421, d_4^{20} 1.2272. At the action of conc. H_2SO_4 on IV is formed $(\text{CH}_3)_2\text{Si}(\text{CH}_2)_3\text{OCH}_3$, b.p. $122-124^\circ/10$ mm, n_D^{20} 1.4253, d_4^{20} 0.8896. Analogically from V is obtained $(\text{CH}_3)_2\text{C}_2\text{H}_5\text{Si}(\text{CH}_2)_3\text{OCH}_3$, b.p. $128-130^\circ/7$ mm, n_D^{20} 1.4312, d_4^{20} 0.8943. It is noted, that 2-chlor-4-methoxybutane does not give with Mg the Grignard reagent, but splits off the HCl, forming $\text{CH}_3\text{CH}=\text{CHCH}_2\text{OCH}_3$.

Card : 3/3

SADYKH-ZADE, S. I.

✓ Direct synthesis of alkylpolysilane chlorides. A. D. Petrov, S. I. Sadykh-Zade, E. A. Chernyshev, and V. P. Mironov (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 26, 1248-54 (1956); *cf. C.A.* 50, 11233f, 13728g. — Halogenated chlorosilanes were passed over pieces of 80-20 Si-Cu alloy at indicated temps. to afford a direct synthesis of polysilanes shown below. At 300-70° $\text{ClCH}_2\text{SiCl}_3$ gave 2% SiCl_4 , 10% MeSiCl_3 , 30% $\text{ClCH}_2\text{SiCl}_2$, 30% $\text{CH}_3(\text{SiCl}_2)_2$, and 8.5% $\text{SiCl}_2(\text{CH}_2\text{SiCl}_2)_2$, b. 157-8°. At 360-70° $\text{ClCH}_2\text{CH}_2\text{SiCl}_3$ gave 3% SiCl_4 , 8.3% EtSiCl_3 , 6% $\text{CH}_3\text{CH}_2\text{SiCl}_2$, b. 90-2°, 3.3% $\text{ClSiCH}_2\text{CH}_2\text{Cl}$, b. 183-4°, 43.6% $(\text{CH}_2\text{SiCl}_2)_2$, b. 199°, and 10% $\text{SiCl}_2(\text{CH}_2\text{CH}_2\text{SiCl}_2)_2$, b. 154.5-6°. $\text{MeSiCl}_2\text{CHCl}_2$ at 360-70° gave 4.0% SiCl_4 , 25.8% MeSiCl_3 , 4.2% $\text{MeSiCl}_2\text{CH}_2\text{Cl}$, b. 120-2°, 10.5% $\text{MeSiCl}_2\text{CH}_2\text{SiCl}_2$, b. 182.5-3°, and 14% $\text{MeSiCl}_2\text{CH}(\text{SiCl}_2)_2$, m. 49-50°, b. 124-5°. $\text{MeSiCl}_2\text{CH}_2\text{Cl}$ at 360-70° gave 2% SiCl_4 , 21% MeSiCl_3 , 17.3% $\text{MeSiCl}_2\text{CH}_2\text{Cl}$, 28.7% $\text{MeSiCl}_2\text{CH}_2\text{SiCl}_2$, b. 183.5-4.5°, and 16.7% $\text{SiCl}_2(\text{CH}_2\text{MeSiCl}_2)_2$, b. 123-4°. $\text{CHCl}(\text{SiCl}_2)_2$ at 360-70° gave 6.3% SiCl_4 , 10.7% $\text{CH}_2(\text{SiCl}_2)_2$, b. 179.9°, 29.8% $\text{CH}(\text{SiCl}_2)_2$, b. 108-9°, m. 57°, and 10.4% $(\text{CH}(\text{SiCl}_2)_2)_2$, b. 139-40°. At 360-70° $\text{Cl}_2\text{SiCH}_2\text{CHCl}_2$ gave 3.2% HSiCl_3 , 13% SiCl_4 , 15.2% $\text{CH}_3\text{CHSiCl}_2$, b. 90-3°, and 9.1% $\text{ClCH}_2\text{SiCl}_2$, b. 132-32.5°. At 360-70° $\text{Cl}_2\text{SiCHClMe}$ gave 3.3% SiCl_4 , 28.3% mixed EtSiCl_3 and $\text{CH}_3\text{CHSiCl}_2$, 6% $\text{Cl}_2\text{SiCHClMe}$, 6% $\text{Cl}_2\text{SiCHMeSiHCl}_2$, b. 100.4-1°, 25% $\text{Cl}_2\text{SiCHMeSiCl}_2$, b. 197-7.3°, 8.3% $(\text{CHMeSiCl}_2)_2$, b. 237-9°, and 0.6% $\text{SiCl}_2(\text{CHMeSiCl}_2)_2$, b. 227-75°. At 360-70° $\text{Cl}_2\text{SiCHCl}_2$ gave 35.2% SiCl_4 , 3.5% MeSiCl_3 , 3.6% $\text{ClCH}_2\text{SiCl}_2$, 22.4% $\text{CH}_2(\text{SiCl}_2)_2$, b. 58-9°, and 13% $\text{CH}(\text{SiCl}_2)_2$, b. 113-14.5°, m. 55-0°. At 360-70° $\text{CCl}_3(\text{SiCl}_2)_2$ gave 18.2% SiCl_4 and 11.4% $[\text{C}(\text{SiCl}_2)_2]_2$, m. 55-9°, b. 200-8°. Direct synthesis with CCl_4 gave the last product and tetrachloroethylene. Direct synthesis from $\text{MeSiCl}_2\text{CHCl}_2$ gave 25.0% MeSiCl_3 , some $\text{MeSiCl}_2\text{CH}_2\text{SiCl}_2$, and 14% MeSiCl_2 .

A.D. Petrov, S.I. Sadykh-Zade...

CH(SiCl)₃, b_m 124-5°, m. 49-50°. Constants of purified products were: CHMe(SiCl)₃, b_m 197-7.3°, n_D²⁰ 1.4842, d₄ 1.5121; CHMe(SiHCl₂)SiCl₃, b_m 180.4-1°, 1.4780, 1.4373; MeSiCl₂CH₂SiCl₃, b_m 183.5-4.5°, 1.4682, 1.4107; (CHMeSiCl₂)₂, b_m 237-9°, 1.4910, 1.4332; SiCl₂(CHMeSiCl₂)₂, b_m 272.5-5°, 1.4990, 1.4736; SiCl₂(CH₂SiCl₂)₂, b_m 157-8°, 1.4970, 1.5423; SiCl₂(CH₂SiMe₂CH₂)₂, b_m 123-4°, 1.4905, 1.3782; SiCl₂(CH₂CH₂SiCl₂)₂, b_m 154.5-0°, m. 44-6°; CH(SiCl)₃, m. 57°, b_m 108-9°; MeSiCl₂CH(SiCl₂)₂, n_D²⁰ 1.49-50°, b_m 124-5°; [CH(SiCl)₃]₂, b_m 139-40°, 1.5213, 1.6929.

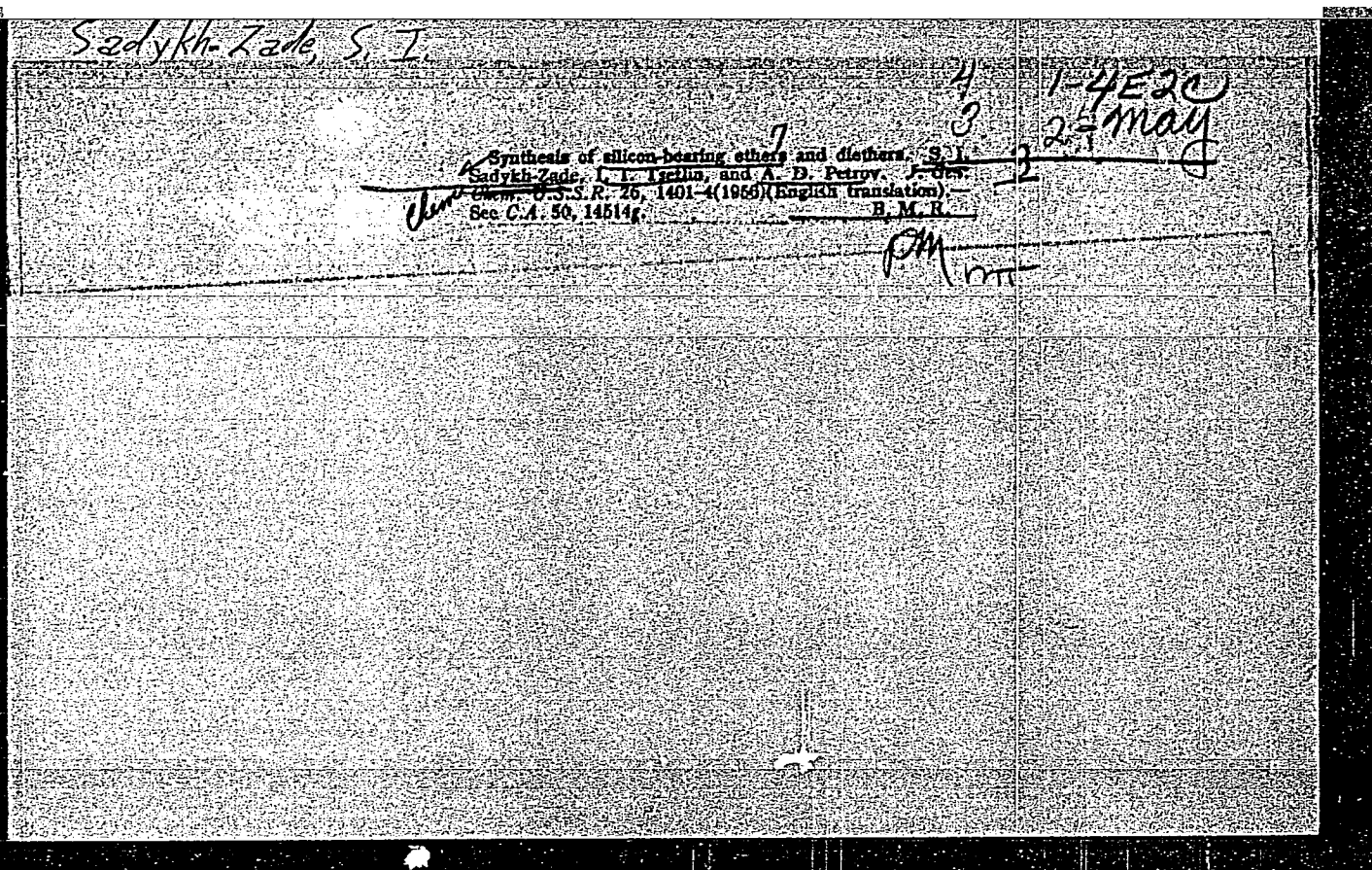
G. M. Kosolapoff

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PETROV, A.D.; SADYKHZADE, S.I.; SMETANKINA, N.P.; YEGOROV, Yu.P.

Direct synthesis of silane chlorides from vinylallyl-type chlorides.
Zhur.ob.khim.26 no.5:1255-1258 My '56. (MIRA 9:9)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silane) (Chlorides)



SADYKH-ZADE, S. I.

Direct synthesis of alkylpolysilane chlorides. A. D.
Petrov, S. I., Sadykh-Zade, B. A., Chernyshev, and V. P.
Mironov. *J. Gen. Chem. U.S.S.R.* 26, 1413-18 (1956) (Eng-
lish translation).—See *C.A.* 50, 14510. B. M. R.

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Sadykh-Zade, S. I.

Direct synthesis of chloroallanes from vinyl and allyl di-
chlorides. A. D. Petrov, S. I. Sadykh-Zade, N. P. Suetan-
kina, and Yu. P. Bogor. *J. Gen. Chem. U.S.S.R.* 26,
1319-23 (1956) (English translation). See *C.A.* 50, 14515d.
B. M. R.

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2 May

SADYKH-ZADE, S.I.

Direct synthesis of alkyl- and alkenylchlorosilanes based on 1,1-dichloroethane and 2,2-dichloropropane. A. D. Petrov, S. I. Sadykh-zade, and I. L. Tseltin (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 107, 99-102 (1956). — Passage of Me_2SiCl_2 over Si-Cu at 280° gave mainly MeSiCl_2 , CH_3SiHCl and SiCl_4 . Repeated passage at $200-80^\circ$ in a recycling app. over 25 hrs. gave 2% SiCl_4 , 7.8% CH_3SiHCl , $\text{CH}_3\text{SiH}_2\text{CH}_3$, b. 90° , d_4 1.0787, n_D^{20} 1.4310, 10.1% $\text{CH}_3\text{SiCH}_2\text{CH}_3$, b. 113° , d_4 1.2308, 1.4412, 14% $(\text{CH}_3\text{SiH})_2\text{SiMe}_2$, b. 175.8° , 1.2036, 1.2308, 11.5% $\text{CH}_3\text{SiHSM}_2\text{SiCl}_2$, b. 195.5° , 1.3808, 1.4818, 1.4709, 11.5% $\text{Me}_2\text{C}(\text{SiCl}_2)_2$, b. 214° , 1.3733, 1.4927. Treatment with MeMgI gave $\text{Me}_2\text{C}(\text{SiHMe})_2$, b. $142-3^\circ$, 0.7779, 1.4380, and $\text{Me}_2\text{C}(\text{SiMe}_2)_2\text{SiMe}_2$, b. $150-60^\circ$, 0.7930, 1.4378. — Similar reaction of MeCHCl_2 in 16 hrs. gave 4.5% SiCl_4 , 6.4% $\text{CH}_3\text{CH}_2\text{SiHCl}$, b. $72-3^\circ$, d_4 1.1222, n_D^{20} 1.4160, 16% $\text{CH}_3\text{CH}_2\text{SiH}_2\text{CH}_3$, b. 92.5° , 1.2426, 1.4295, 6.5% $\text{MeCH}(\text{SiHCl}_2)_2$, b. 165.5° , 1.3343, 1.4678, 18.5% $\text{MeCH}(\text{SiCl}_2)_2\text{SiHCl}$, b. 181° , 1.4310, 1.4740, 18.5% $\text{MeCH}(\text{SiCl}_2)_2\text{SiH}_2\text{CH}_3$, b. 197.5° , 1.5059, 1.4320. Treatment of the halides with MeMgI gave: $\text{MeCH}(\text{SiHMe})_2$, b. 124° , 0.7597, 1.4252; $\text{MeCH}(\text{SiHMe})_2\text{SiMe}_2$, b. 140° , 0.7756, 1.4288; $\text{MeCH}(\text{SiMe}_2)_2$, b. 165.7° , 0.7821, 1.4340.

G. M. Kosolapoff

Sadykh-Zade, S. I.

Direct synthesis of alkyl- and alkenylchlorosilanes based
on 1,1-dichloroethane and 2,2-dichloropropane. A. D.
Petrov, S. I. Sadykh-Zade, and I. L. Tsetlin. *Proc. Acad.
Sci. U.S.S.R., Sect. Chem.* 107, 147-0 (1956) (Engl. trans-
lation).—See *C.A.* 50, 13728d. B. M. R.

SA DYKH-ZADE, S.I.

PETROV, A.D.; SADYKH-ZADE, S.I.; PONOMARENKO, V.A.; SOKOLOV, B.A.;
YEGOROV, Yu.P.

Reaction of some γ -chloralkylsilanechlorides with silicon under
condition of forward synthesis. Zhur. ob. khim. 27 no.9:2479-2486
S '57. (MIRA 11:3)

1. Institut organicheskoy khimii AN SSSR.
(Silicon) (Chemistry, Organic--Synthesis)

SADYKH-ZADE, S. I.

7
 Synthesis of trialkylhydrosilanes. S. I. Sadykh-Zade, L. V. Avgushevich, and A. D. Petrov (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.*, 112, 662-6 (1957).—Passage of 2.5 kg. chloroprene over Si-Cu alloy at 420-60° gave 38% 6-(1-chlorovinyl)-2-chlorocyclohexene, 4-chloro-1-vinyl-1,3-cyclohexadiene, and 1,4-dichloro-1,5-cyclooctadiene. The Grignard reagent from 26.4 g. Me in Et₂O and 135 g. ClCH₂SiMe₃ treated with 61.6 g. CH₃CHCHO and poured on ice after 3 hrs. on a steam bath yielded 80 g. RR'R'SiCH₂CH(OH)CH:CH₂ (I) (R = R' = R'' = Me), b_p 70-70.5°, n_D²⁰ 1.4627, d₄ 0.8427. Similarly were prepd. the following I (R, R', R'' shown): Me, Me, Et, b_p 74-5°, 1.4493, 0.8528, 68.5%; Me, Et, Et, b_p 79-80°, 1.4611, 0.8651, 51.5%; Me, Me, Et, b_p 75-6°, 1.4548, 0.8501, 64.7%; Et, Et, Et, b_p 76-7°, 1.4648, 0.8816, 63.6%. Also prepd. was Me₂EtSiCH₂CH(OH)CH:CHMe (from MeCH:CHCHO), b_p 70-1°, 1.4583, 0.8566, 64.4%. Distn. of I from a little KHSO₄ after heating 1 hr. at 100° gave a range of fractions contg. (MeSi)₂O and 35% RR'R'SiCH:CHCH:CH₂ (R = R' = R'' = Me) (II), b_p 113-5°, 1.4480, 0.7638. Similarly were prepd. the following homologs of II (R, R', R'' shown): Me, Me, Et, 29% b_p 138-8.5, 1.4490, 0.7095; Me, Et, Et, 17.2%, b_p 163-2.5°, 1.4585, 0.7878; Et, Et, Et, 15%, b_p 184.5-5°, 1.4695, 0.8070. Also isolated were the dimers of (RR'R'SiCH:CHCH:CH₂)₂ (R, R', R'' shown): Me, Me, Me, 8.5%, b_p 95°, 1.4790, 0.8040; Me, Me, Et, 10.0%, b_p 117-3°, 1.4930, 0.8835; Me, Et, Et, 8%, b_p 189-41°, 1.4930, 0.8849. I and maleic anhydride form an adduct, m. 124.5° (from MeCO-petr. ether). G. M. K.

Pa - 3161

AUTHOR:

SADYKHZADE, S.I., YEGOROV, Yu.P. and PETROV, A.D.

TITLE:

Allene-Acetylene Isomeric Transformations in the Silicon Hydrocarbon Series.

(Allen-atsetilenovyye izomernyye prevrashcheniya v ryadu kremneuglevodorodov. Russian).

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 3, pp 620 - 623

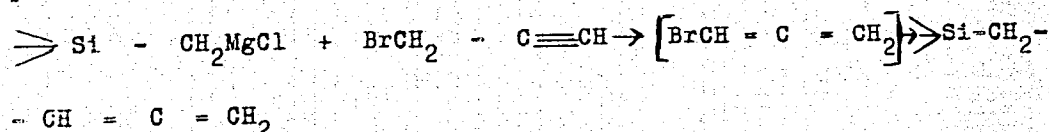
(U.S.S.R.)

Received: 6 / 1957

Reviewed: 7 / 1957

ABSTRACT:

On the occasion of an investigation β - γ -silico-allene-hydrocarbons were obtained for the first time by condensation of the Grignard-reagentia from silicon halides with bromine-propargyle. A yield of 60 - 70 % of silico-allene-hydrocarbons only was obtained, probably according to following scheme:



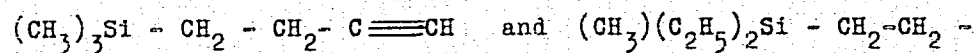
On the occasion of condensation of the Grignard-reagentia from the halides which did not contain silicon with bromine-propargyle, however, a mixture of acetylene- and allene-hydrogens was obtained. When heated with Na, the β - γ - silico-allene-hydrocarbons with a high yield (order of magnitude 40 %) changed into once-substituted

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Allene-Acetylene Isomeric Transformations in the Silicon Hydrocarbon Series.

silico-acetylene-hydrocarbons with a triple binding to silicon in γ -position. These silicon-hydrocarbons gave a white precipitation with a silver nitrate solution. In particular



$-\text{C} \equiv \text{CH}$ were hydrated in the presence of HgSO_4 in a methanol solution. The Na-derivatives of the acetylene-silico-hydrocarbons condense easily with the halogen-alkyles: A description of the experiments follows. (1 table, 9 citations from Slavic publications).

ASSOCIATION: Institute for Organic Chemistry N.D. Zelinskiy of the Academy of Science of the U.S.S.R.
(Institut organicheskoy khimii im N.D. Zelinskogo Akademii nauk SSSR.)

PRESENTED BY:
SUBMITTED: 31 October 1956
AVAILABLE: Library of Congress
Card 2/2

SADYKH-ZADE, S. I.

20-3-28/59

AUTHORS Petrov, A.D., Corresponding Member, AN ^{USSR} A, Shchukovskaya, L.L.,
Sadykh-Zade, S.I., Yegorov, Yu.P.

TITLE The Synthesis and Dehydration of Unsaturated Silicon Containing
Alcohols.
(Sintez i degidratatsiya nepredel'nykh kremniysoderzhashchikh spir-
tov - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 115, Nr 3, pp 522-525 (U.S.S.R.)

ABSTRACT It is known that the character of alcohol dehydration is determined
by the structure and nature of its alcohol group. This is easiest in
the case of the tertiary, which is followed by the secondary and most
difficult it is in the case of the primary ones. In the case of si-
licon containing alcohol the influence of this element is added. It
was shown that the alcohols with a β -position of the alcohol group
with regard to Si suffer a stronger or slighter β -decay, the satura-
ted as well as the unsaturated alcohols, independently of their struc-
ture, besides dehydration. The unsaturated alcohols with a δ -posi-
tion of the alcohol group as well as the not decomposing alcohols
with a β -position of this group which are investigated in the pre-
sent paper are studied only to a very small extent. Formulae of the
first of such alcohols are given, the dehydration of which was not
yet studied. The first unsaturated not decomposing alcohol with a
 β -position of the OH-group is $\text{OH} - \text{CH}_3 - \text{C} - \text{C} = \text{CH}_2$. Its dehydration
 $\text{CH}_3 \quad \text{Si}(\text{C}_2\text{H}_5)_3$

Card 1/2 with KHSO_4 took place very easily and yielded the first silicium

The Synthesis and Dehydration of Unsaturated Silicon 20-3-28/59
Containing Alcohols.

analogue of the methylisopren. The authors then synthesized the cyclic analogues of this alcohol and of the silicon hydrocarbon. Already in 1953 it was proved that after an interaction between the dimethylacetylenylcarbinol and the surplus of the Grignard-reagent the obtained derivative reacts with R_3SiCl . The first of the two varieties (explained by schemes) was preferred. The synthesis of the above mentioned compound for $R=CH_3$ was repeated and a series of its analogues was obtained. All of them were easily dehydrated with $KHSO_4$. The precise results of the spectral analysis with the above mentioned results are the reason for the suggestion of a (given) reaction scheme. The formation of compounds of an enol-type are a second confirmation of the structure. The obtained values are similar to those of the vinyl ethynylsilanes $R_3SiC \equiv C-CH=CH_2$. Furthermore 2 ways of synthesis are described. The synthesis of the ether $CH_3-C(CH_3)_2-CH_2-OSi(CH_3)_3$ was also successful. An isomeric tertiary alcohol $CH_3-C(CH_3)_2-CH_2-OSi(CH_3)_3$ which formerly was considered to be an ether has here given constants. There is 1 table and 4 Slavic references.

ASSOCIATION

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Institute for Organic Chemistry "N.D. Zelinskiy" of the A.N. of the
(Institut organicheskoy khimii im. N.D. Zelinskogo A.N. SSSR) USSR.
March 3, 1957
Library of Congress

PETROV, A. D., SADYKH-ZADE, S. I. and SHCHUKOVSKAYA, L. L.

SADYKH-ZADE, S. I.

"Acetylene und Dien-Siliciumorganische Verbindungen,"

■ paper presented ■ for the Symposium on Organic and Non-Siliceous Silicon
Chemistry Dresden, 12-14 May 1958.

SADYKH-ZADE, S. I.

62-58-4-25/32

AUTHORS: Petrov, A. D., Sadykh-Zade, S. I.

TITLE: On the Binding of Vinylacetylene With Hydride Silanes
(O prisoyedinenii vinilatsetilena k gidridsilanam)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk,
1958, Nr 4, pp. 513 - 514 (USSR)

ABSTRACT: The binding of acetylene with methyl- and ethylhydride silanes at $170 \pm 180^\circ \text{C}$ was investigated by Shostakovskiy and Kochkin (Reference 1). The authors investigated the binding of vinylacetylene with hydrosilanes at $150 - 160^\circ \text{C}$. In both cases a reaction took place, the produced butadienylsilanes however polymerizing as high fusible polymers. In the last experiment it was, however, possible to find a catalyst which realizes the reaction also at room temperature: the obtained butadienylsilanes could easily be polymerized. The authors used an homogenous platinum catalyst: 0,1 N-solution in isopropylalcohol H_2PtCl_6 . With this catalyst reactions were carried out (see formulae 1 and 2) which

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On the Binding of Vinylacetylene With Hydride Silanes

supplied yields of from 50 - 40%. With $C_2H_5HSiCl_2$ the reaction also took place unidirectional in an about 50% yield of the reaction product (diethyldichlorosilylbutene). There are 2 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: November 28, 1957

AVAILABLE: Library of Congress

1. Vinylacetylene--Compounding 2. Hydrosilanes--Applications

Card 2/2

PETROV, A.D.; SADYKH-ZADE, S.I.; YEGOROV, Yu.P.

Reactions of gamma-chloroalkylchlorosilanes with silicon in direct
synthesis. Izv. AN Azerb. SSR. Ser. fiz.-tekh. i khim. nauk no. 6:
123-135 '58. (MIRA 12:2)

(Silane)

(Silicon)

SOV/62-58-8-7/22

AUTHORS:

Petrov, A. D., Mironov, V. F., Ponomarenko, V. A.,
Sadykh-Zade, S. F., Chernyshev, Ye. A.

TITLE:

Synthesis of New Types of Silicon Containing Monomers (Sintez novykh vidov kremnesoderzhashchikh monomerov)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 8, pp. 954-963 (USSR)

ABSTRACT:

This lecture was delivered at the General Meeting of the Department of Chemical Sciences of the AS USSR on April 25, 1958. First the previous paper (Ref 1) and the papers written by other authors (Refs 2 and 3) are discussed in short, and then the lecture deals with the three subjects: a) The catalytic binding of hydride silanes with unsaturated and aromatic compounds. b) The condensation of hydride silanes with alkyl-aryl- and alkenyl halides at high temperature. c) The synthesis of polymerizing silicon hydrocarbons (and their derivatives). The result of the experiments carried out is as follows: In the presence of H_2PtCl_6 alkyl dichlorosilanes bind with

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$CH \equiv CH$, $CH_2 = CH_2$, $CH_2 = CHCH_3$ (at temperatures of from 20 to

SOV/62-58-8-7/22

Synthesis of New Types of Silicon Containing Monomers

60°C) in almost quantitative yield. In the presence of platinum catalysts alkyl dichlorosilanes supply higher yields of compound products. In the presence of peroxides higher yields are to be found due to silicochloroform. By means of the condensation (600°C) of alkyl dichlorosilanes and silicochloroform with aryl- and alkenyl halides not accessible di- and trichlorosilanes have been obtained until now. Silicon containing butadiene derivatives, acrylic acid derivatives, derivatives of vinyl esters and acetals were synthesized for the first time, all of which form linear, solid polymers (under atmospheric pressure). There are 1 figure, 3 tables, and 12 references, 10 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskoy, AS USSR)

SUBMITTED: May 4, 1958

Card 2/2

AUTHORS: Sadykh-zade, S. I., Petrov, A.D. SOV/79-28-6-23/63

TITLE: Synthesis and Reactions of Butadienylsilanes (Sintez i reaktsii butadiyenilsilanov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1542-1547 (USSR)

ABSTRACT: The first representative of the trialkylsilylbutadiene series was obtained by selective hydration of the trialkylsilylacet-
ylene by the authors:

$$R_3Si - C \equiv C - CH = CH_2 + H_2 \longrightarrow R_3Si - CH = CH -$$

$$- CH = CH_2 \text{ (Ref 1),}$$

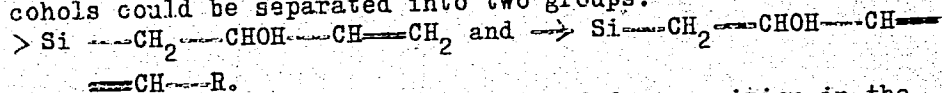
the 2-trialkylsilylbutadiene (Ref 2) according to scheme 2. In the present work the authors investigated the synthesis of 1-trialkylsilylbutadiene according to scheme 2, i.e. by dehydration of the unsaturated organosilicon alcohols with an alcohol group in the β - or δ -position. It has to be mentioned that this method makes possible the synthesis of butadienylsilanes in which the silicon atom is at various distances from the butadiene chain. The character of the

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Synthesis and Reactions of Butadienylsilanes

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Grignard reagent and of the radicals (at the silicon atom) exerted only little influence on the yield of alcohols, whereas the yields of butadienylsilanes showed great differences (Table 2). The yields in the case of the β -alcohols were by the 2 - 2.5-fold lower in the substitution of methyl by ethyl in consequence of the parallel side reaction of the β -decomposition. With respect to this decomposition these alcohols could be separated into two groups:



The first group was accompanied by a β -decomposition in the dehydration, whereas the second group ($\text{R}=\text{CH}_3$) almost completely was subjected to that decomposition. At $\text{R}=\text{C}_6\text{H}_5$ the dehydration even occurred already in simple distillation. The yield of trialkyl- β -methylbutadienylethylsilane amounted to 78 % (scheme 3). The butadienylsilanes obtained from the β -alcohols by dehydration were condensed with maleic anhydride and acrylic anhydride, with acrylic acid ester and acrylonitril according to Diels and Alder; the yields were very good. Thus it was shown that by condensation of the Grignard reagents from α - and γ -siliconhalides with acrylic- and crotonic aldehyde unsaturated β - and γ -organosilicon-alcohols

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Synthesis and Reactions of Butadienylsilanes

SOV/79-28-6-23/63

can be synthesized. Besides, the partial decomposition in the dehydration of the β -alcohols, also dimers are formed apart from monomers. There are 3 tables and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR i Institut khimii Akademii nauk Azerbaydzhanskoy SSR
(Institute of Organic Chemistry AS USSR and Chemical Institute, AS Azerbaydzhan SSR)

SUBMITTED: June 10, 1957

1. Silicanes--Synthesis

Card 3/3

AUTHORS: Sadykh-Zade, S. I., Nozdrina, L. V., 20-118-4-27/61
 Petrov, A. D., Corresponding Member of the AS USSR

TITLE: Production of Silicon Olefine Oxides From Chlorhydrines
 (Sintez okisey kremneolefinov iz khlorgidrinov)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 4, pp. 723-726 (USSR)

ABSTRACT: A silicon olefine oxide was produced only lately (reference 1) as first oxide of this kind (β , δ -secondary-primary oxide) by interaction between the reagent of Grin'yar (Grignard) and epichlorhydrin. The reaction passed according to a very complicated scheme, the yields of the organic silicon chlorhydrin as well as of its oxide did not surpass 25-30%. In the present investigation it was found that the interaction between the reagents of Grin'yar from silicon-halides $[\rightarrow\text{Si}-(\text{CH}_2)_n\text{MgX}]$ and monochloroacetone takes a clear course. This made possible a production of the β - δ - and δ - ϵ -oxides already with a high yield (80-90%). It is remarkable that the β - δ -haloidhydrins, in contrast to the δ - ϵ -haloidhydrins, yield no oxide, under the NaOH action but quantitatively unsaturated halides. The authors succeeded in leading the reaction into the

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Production of Silicon Olefine Oxides From Chlorhydrines

20-118-4-27/61

direction of the oxides. NaOH could be substituted by $\text{Ca}(\text{OH})_2$, or the alkyl radical R by R_3SiO ; thus two divergent reactions were conducted. In the attempt to produce α - β -bromohydrin by affiliation of hypobromous acid to triethylvinylsilane the reaction took an anomalous course, and instead of bromohydrin dibromide was formed (analogously to ref. 2). The attempt to produce an oxide from $\text{R}_2\text{Si}-\text{CHCl}-\text{CH}_3$ failed, too. The bond $\text{Si}-\text{C}$

OH
was hydrolyzed here under the influence of NaOH. $\text{R}_2\text{Si}(\text{OH})_2$ was formed here, the initial compound did not suffer any changes under the action of $\text{Ca}(\text{OH})_2$ and regained its original state. δ - ξ -oxide also absorbed the hydride silane and formed monoethers (no alcohol). This was determined from the negative value of the hydroxyl content. In the experimental part the usual data are given on: 3-trimethyl-silyl-1-chloro-2-methylpropanol-2 (I), oxide of the 5-dimethyl-ethyl-silyl-2-methylpentene-1-2, and 1-chloro-2-methyl-triethyl-silyl-methylpropene-1-2 together with some further analogous compounds. There are 2 tables and 2 references, 1 of which is Soviet.

SUBMITTED:
AVAILABLE:
Card 2/2

July 5, 1957
Library of Congress

SOV/20-121-1-33/55

AUTHORS:

Petrov, A. D., Corresponding Member, Academy of Sciences,
USSR, Sadykh-Zade, S. I.

TITLE:

The Synthesis of Silicon Containing Monovinyl Ethers (Sintez
kremniysoderzhashchikh prostykh vinilovykh efirov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 119-122
(USSR)

ABSTRACT:

As is known, the polymers of the mentioned ethers serve as raw material for the synthesis of varnish and glue as well as for the production of artificial leather etc. (Ref 1). Vinyl ethers are produced by a simple reaction (1) which, however, cannot be used in the case of the silanols >Si-OH , since alkoxy- and alkenyloxysilanes are hydrolytically decomposed under the influence of electrophile as well as of nucleophile reagents. After the reaction (1) the vinylation succeeded only in the case of such a silicon containing alcohol as β -hydroxypropyl trimethylsilane (Ref 2). In this case the alcohol group did not more act upon the silicon in consequence of the considerable distance between the alcohol group and the latter. In this case, however, a reverse movement from the periphery to the center

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The Synthesis of Silicon Containing Monovinyl Ethers

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was not successful, in contrast to acetylene hydrocarbons. This reverse movement was not possible even in the case of γ -butylsilane owing to its decomposition. In the present investigation the authors succeeded for the first time in synthesizing vinyl ethers according to a new affiliation reaction of the trialkylsilanes R_3SiH to the α - β -unsaturated aldehydes or ketones in the presence of H_2PtCl_6 which is specific for the chemistry of organo-silicon compounds. This affiliation takes place in the 1,4-position in which R_3Si is affiliated to the carbonyl oxygen. The affiliation took place according to two different reactions: In the case of (2) to the akryl- and cinnamon aldehyde, in the case of (3) to methyl vinyl ketone and to methylcyclohexenone. The silicon containing vinyl ethers may be hydrolized as easily as the vinyl ethers which do not contain silicon. They may be analyzed by means of oximizing the aldehydes (or ketones) formed by hydrolysis. Naturally hexa-alkyl-siloxanes are produced in this case instead of alcohols. The authors succeeded to bring about also an affiliation to akryl aldehyde in the presence of the same catalyst. The produced ethyl methyl-vinyl-oxy-dichlorosilane polymerized, however, to a thick liquid (similar to

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The Synthesis of Silicon Containing Monovinyl Ethers SOV/20-121-1-33/55

glycerin). By the hydrolysis of this polymer a solid not melt-able product of the polycondensation was obtained which was not soluble in ether, but partly in benzene. There are 1 table and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo, Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: February 6, 1958

1. Silicon compounds (Organic)--Synthesis 2. Vinyl ethers--Chemical properties 3. Vinyl ethers--Synthesis 4. Silicanes--Chemical reactions 5. Aldehydes--Chemical reactions 6. Ketones--Chemical reactions

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SADYKH-ZADE, S. I.

S. I. Sadykh-zade and A. D. Petrov, "The Synthesis of Silicon-Organic Vinyl Ethers."

G. I. Nikishin, A. D. Petrov, S. I. Sadykh-zade, "The behavior of Various Dichloralkanes and Dichloralkenes."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.

Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

5(3)

AUTHORS:

Sadykh-zade, S. I., Petrov, A. D.

SOV/79-29-4-14/77

TITLE:

On the Reactions of α - and β -Chloroethyl-ethyl
Dichlorosilanes With Silicon Under the Conditions of
Direct Synthesis (O reaktsiyakh α - i β -
khloretiletildikhlorosilanov s kremniyem v usloviyakh
pryamogo sinteza)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1109-1112
(USSR)

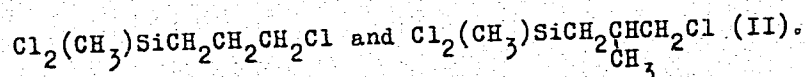
ABSTRACT:

Recently the authors had shown that the polyfunctional
organosilicon compounds can be obtained by direct synthesis
from α -, β - and γ -chloroalkylsilane chlorides (Ref 1).
It was proved that in the reaction with silicon (at 370-380°)
($\text{Cl}_3\text{SiCH}_2\text{CH}_2\text{Cl}$ and $\text{Cl}_3\text{SiCHClCH}_3$) in addition to the synthesis
products further a dehydrochlorination product of these
silane chlorides, the trichlorovinyl silane (5% yield) is
formed. At the same time the yield of the dehydrochlorination
products was varying, accordingly, from 26% up to 58% when
using the γ -chloroalkyl-alkyldichlorosilanes

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On the Reactions of α - and β -Chloroethyl-ethyl
Dichlorosilanes With Silicon Under the Conditions of
Direct Synthesis

SOV/79-29-4-14/77



On the assumption that the higher yield of dehydrochlorination products in the two latter reactions was less due to the more readily formation of β -alkenylchlorosilanes (as compared with the α -alkenylchlorosilanes) than to the substitution of the alkyl in the trichlorosilyl group for one chlorine, the present investigation was carried out. The results presented in both tables confirm the correctness of the above assumption. The yield of the alkenylsilanes of the products of the β -cleavage ($\text{CH}_2 = \text{CHSiCl}_3$) and of the dehydrochlorination $[(\text{C}_2\text{H}_5)(\text{CH}_2 = \text{CH})\text{SiCl}_2]$ was indeed 18 - 27 %. In a 24 - 25 % yield the polyfunctional silane chlorides (tetrachlorodisilane and hexachlorotrisilane) resulted as products of synthesis. Details are given in the experimental part. There are 2 tables and 2 Soviet references.

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On the Reactions of α - and β -Chloroethyl-ethyl
Dichlorosilanes With Silicon Under the Conditions of
Direct Synthesis

SOV/79-29-4-14/77

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR i Institut
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TITLE:

On the Addition of Hydrosilanes to α,β -Unsaturated
Acids and Their Esters

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2936-2939
(USSR)

ABSTRACT:

Recently the authors found (Ref 1) that trialkyl- and aryl
alkyl silanes add to α,β -unsaturated aldehydes and ketones
only in 1,4-position in the presence of a 0.1n. solution of
 H_2PtCl_6 in isopropyl alcohol, under the formation of silicon-
containing vinyl ethers. They investigated this reaction on
the basis of acrylic aldehyde, methylvinyl ketone, and their
various analogs with substituents in β -position. It was an
interesting experiment to add the hydrosilanes also to the
 α,β -unsaturated acids and their esters, all the more as
publications (Ref 2) described the addition of methyl dichloro
silane to methylacrylate in the presence of platinum on
carbon in the autoclave at a heating of sixteen hours' dura-
tion at 125 $^{\circ}$; a simultaneous addition in both the 1,4- and
1,2-position was found to take place. It was, therefore, not

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On the Addition of Hydrosilanes to α,β -Unsaturated
Acids and Their Esters

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possible to deny a priori the influence exerted by experimental conditions on the order of addition. The below-mentioned experimental results obtained by the authors showed that also under their conditions methyl dichloro silane adds to methylacrylate simultaneously in 1,2- and 1,4-position. It was further found that trichloro silane adds only in 1,2-position to this ester, and triethylsilane only in 1,4-position (this holds also for the free acid). Thus, it was found that the order of addition changes gradually in the replacement of the alkyl radicals in the trialkylsilanes by the more electronegative halogen radicals (Scheme). Trialkylsilane adds also to methyl methacrylate in 1,2-position, which indicates that the order of addition depends also on the structure of the α,β -unsaturated carbonyl compounds. The addition of alkyl dichlorosilanes in the presence of H_2PtCl_6 proceeds in the same way as in heating with platinum on carbon, i.e. simultaneously in 1,2- and 1,4-position. There are 8 references, 3 of which are Soviet.

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